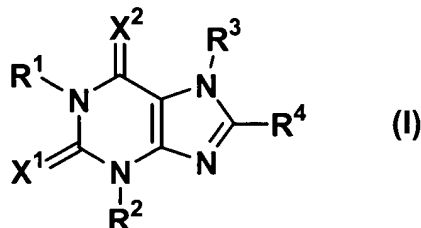


b.) Amendment to the Claims:

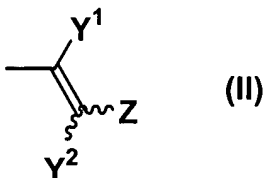
1. (Currently Amended) ~~An agent for preventing and/or treating higher brain dysfunction~~ A pharmaceutical composition comprising, as an active ingredient, a xanthine derivative represented by formula (I):



[wherein

R^1 , R^2 and R^3 ~~are the same or different, and~~ independently represent a hydrogen atom, lower alkyl, lower alkenyl or lower alkynyl;

R^4 represents cycloalkyl, $-(CH_2)_n-R^5$ (wherein R^5 represents substituted or unsubstituted aryl, or substituted or a unsubstituted heterocyclic group; and n represents an integer of 0 to 4) or a group represented by formula (II):



(wherein Y^1 and Y^2 ~~are the same or different, and~~ independently represent a hydrogen atom, halogen or lower alkyl; and Z represents substituted or unsubstituted aryl or a substituted or unsubstituted heterocyclic group);

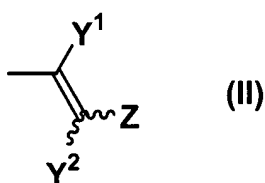
X^1 and X^2 ~~are the same or different, and~~ independently represent an oxygen atom or a sulfur atom]

or a pharmaceutically acceptable salt thereof

together with a pharmaceutically acceptable carrier.

2. (Currently Amended) The ~~agent for preventing and/or treating higher brain dysfunction~~ composition according to claim 1, wherein X^1 and X^2 each is an oxygen atom.

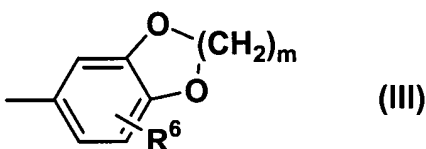
3. (Currently Amended) The ~~agent for preventing and/or treating higher brain dysfunction~~ composition according to the claim 1 or 2, wherein R^4 is a group represented by formula (II):



(wherein Y^1 , Y^2 and Z ~~each have the same meanings as defined above~~).

4. (Currently Amended) ~~The agent for preventing and/or treating higher brain dysfunction~~ composition according to claim 3, wherein Y¹ and Y² are both hydrogen atoms.

5. (Currently Amended) ~~The agent for preventing and/or treating higher brain dysfunction~~ composition according to claim 3 ~~or 4~~, wherein Z is substituted or unsubstituted aryl or a group represented by formula (III):



(wherein R⁶ represents a hydrogen atom, hydroxy, lower alkyl, lower alkoxy, halogen, nitro or amino; and m represents an integer of 1 to 3).

6. (Currently Amended) ~~The agent~~ A method for preventing and/or treating ~~higher brain dysfunction according to any one of claims 1 to 5, wherein the higher brain dysfunction is a higher brain dysfunction caused by brain injury~~ comprising administering an effective amount of the composition according to claim 1 to a patient in need thereof.

7. (Currently Amended) The ~~agent for preventing and/or treating higher brain dysfunction~~ method according to claim 6, wherein the brain injury is a ~~brain injury~~ due to aging.

8. (Currently Amended) The ~~agent for preventing and/or treating higher brain dysfunction~~ method according to claim 6, wherein the brain injury is a ~~brain injury~~ due to a disorder selected from the group consisting of head trauma and cerebrovascular accident.

9. (Currently Amended) The ~~agent for preventing and/or treating higher brain dysfunction~~ method according to any one of ~~claims 1 to 8~~ claims 6 to 8, wherein the higher brain dysfunction is an impairment of higher brain function selected from the group consisting of memory, thinking, recognition, action and learning.

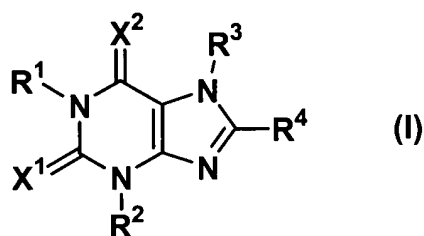
10. (Currently Amended) The ~~agent for preventing and/or treating higher brain dysfunction~~ method according to any one of ~~claims 1 to 8~~ claims 6 to 8, wherein the higher brain dysfunction is a ~~brain dysfunction~~ selected from the group consisting of agnosia, amnesia and apraxia.

11. (Currently Amended) ~~The agent for preventing and/or treating higher brain dysfunction~~ method according to any one of ~~claims 1 to 8~~ claims 6 to 8, wherein the higher brain dysfunction is a memory impairment.

12. (Currently Amended) ~~The agent for preventing and/or treating higher brain dysfunction~~ method according to any one of ~~claims 1 to 8~~ claims 6 to 8, wherein the higher brain dysfunction is a learning impairment.

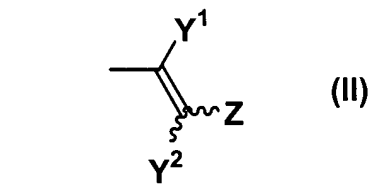
Claim 13 (Cancelled).

14. (Currently Amended) ~~Use of~~ A method of producing a pharmaceutical composition comprising the steps of selecting a xanthine derivative represented by formula (I):



[wherein ~~R¹, R², R³, R⁴, X¹ and X²~~ each have the same meanings as defined above R¹, R² and R³ independently represent a hydrogen atom, lower alkyl, lower alkenyl or lower alkynyl;

R⁴ represents cycloalkyl, -(CH₂)_n-R⁵ (wherein R⁵ represents substituted or unsubstituted aryl, or substituted or a unsubstituted heterocyclic group; and n represents an integer of 0 to 4) or a group represented by formula (II):



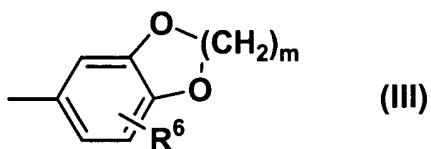
(wherein Y¹ and Y² independently represent a hydrogen atom, halogen or lower alkyl; and Z represents substituted or unsubstituted aryl or a substituted or unsubstituted heterocyclic group);

X¹ and X² independently represent an oxygen atom or a sulfur atom]

or a pharmaceutically acceptable salt thereof for the manufacture of an agent for preventing and/or treating higher brain dysfunction; and

admixing said xanthine derivative or pharmaceutically acceptable salt with a pharmaceutically acceptable carrier.

15. (New) The composition according to claim 4, wherein Z is substituted or unsubstituted aryl or a group represented by formula (III):



(wherein R⁶ represents a hydrogen atom, hydroxy, lower alkyl, lower alkoxy, halogen, nitro or amino; and m represents an integer of 1 to 3).